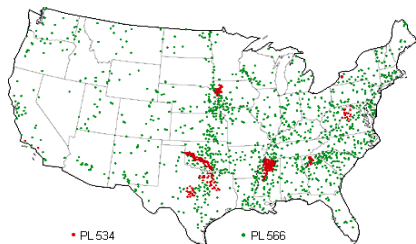




USDA ASSISTED FLOOD CONTROL DAMS



## Watershed Flood Control: Today's Success Tomorrow's Challenge

**The US flood control infrastructure is aging.** With the assistance of USDA, local communities have invested \$14 billion in a watershed flood control infrastructure for the protection of lives and property. This infrastructure of over 10,000 structures in 47 states has served well, providing almost \$1 billion in benefits each year. Many of its structures are approaching the end of their planned service life and will require rehabilitation to continue to function safely. To ignore these structures will eventually place life and property at risk.



**The need for rehabilitation** of the nation's watershed flood control structures was recognized by Congress when through passage of PL-472 in 2000. This law authorizes NRCS to assist in the rehabilitation of older structures so that their benefits will be continued into the future.

**The technology making the success** of the present infrastructure possible was developed to a great extent by the Agricultural Research Service (ARS), which is the research arm of USDA. ARS and the Natural Resources Conservation Service (NRCS) have long cooperated in the development and application of design criteria for flood control structures that economically provide for the needs of agriculture and of society as a whole.

**USDA is preparing to meet the challenges** associated with watershed rehabilitation through continued integration of the research activities of ARS and the field actions of NRCS.

**The system of laboratories** and instrumented watersheds managed by the ARS Watershed Science research program provides a unique capability to address the technical challenges that will be encountered during flood control structure rehabilitation. Unique features of the ARS program include:

- A system of watersheds from which historic data have been gathered during years of monitoring. These data may be used in predicting the extent of sedimentation to be expected during the extended life of the reservoirs.
- Models, expertise, and data that will allow the evaluation of the impacts that alternative actions may have on the stream eco-system.
- Laboratory facilities suitable for development and testing of design criteria for flood control structures.

**The USDA watershed flood control program** has been a success for both agriculture and society as a whole. Continued cooperation between the agencies of USDA will result in its continued success through development and application of technology that economically protects and provides for the needs of society and the environment.



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Watershed flood control reservoirs have become a part of the nation's landscape. These reservoirs provide attractive recreation sites for fishing, swimming, boating and picnicking, as well as providing flood protection and water supply. Application of the results of watershed research will allow these reservoirs to continue to function effectively into the future.

ARS research has resulted in procedures for prediction of erosion and sedimentation rates for varying land uses and soil types. Research to develop the technology needed to characterize sediments impounded by reservoirs is ongoing.



ARS research into the use of vegetation for erosion protection has allowed extensive use of vegetated earth emergency spillways on flood control reservoirs.

Increased development around reservoirs changes the upstream hydrology and the downstream floodplain, increasing dam safety concerns during major floods.



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